

radiation source that emits a suitable wavelength for attracting insects to the device, and an amount of adhesive material arranged on a capturing surface. The insects that are attracted towards the device by the radiation can run into the adhesive material and be trapped by the device.

5 The patent application WO8700727 discloses a method for eliminating insects, which includes the steps of attracting the insect; generating an infrared beam; directing the infrared beam along a corridor between a pair of electrodes; detecting the presence of an insect in the corridor between the pair of electrodes; applying high voltage to the electrodes in response to the detection
10 of the insect; executing the insect by means of applying high voltage to the electrodes; and eliminating the electrocuted insect.

 Considering the aforementioned, it is useful to note that the detection is of vital importance as a preventative action in order to prevent the appearance of pests, since once the animals are detected effective elimination mechanisms
15 can be applied, not only in the area where they have been detected, but also in a determined area near where the detection was carried out; this being an advantage over the conventional elimination means, since in the conventional means, those animals that have not come into contact with said elimination devices can develop without control means being taken to prevent it.

20 The present invention resolves the previously mentioned problems of the state of the art, as it provides a device for detecting insects, which uses an infrared sensor that emits an alarm signal upon detecting a temperature change.

25 **Description of the invention**

 Embodiments of the present invention seek to provide a device for detecting insects combining the use of a passive infrared sensor (PIR) and an inner chamber that has a temperature (T_i) higher than the outside temperature (T_e) of the place where it is arranged. The passive infrared sensor emits an
30 alarm signal when it detects a change in the emission of infrared radiation in the inner chamber due to the presence of any animal, for example, an insect; and for this reason the device may be very useful for monitoring and elimination insects, preventing the appearance of pests.

 It is important to take into account that the passive infrared sensors (PIR)
35 do not create or irradiate energy with the goal of detecting, but rather they work

in their entirety to detect the energy emitted by other objects, in the form of infrared radiation (IR emission), for which reason these PIR sensors do not detect or measure "heat", but they detect the infrared radiation emitted by an object, which is associated with the temperature thereof.

5 In the present invention it will be understood that when the passive infrared sensor detects a temperature or a temperature change, it will be detecting an infrared radiation emission or a change in infrared radiation, respectively.

10 It is well known that insects have the same temperature as the environment that surrounds them, and this makes them undetectable by passive infrared sensors alone, given that these detection systems can only detect if there are temperature variations, in the form of infrared radiation (IR emission) in the surroundings where they are located.

15 Therefore, an aspect of the present invention provides a device for detecting insects characterized in that it comprises an inner chamber provided with an opening for the entrance of insects, an inner heating base that has an electrical resistance for supplying heat and maintaining a temperature T_i in said inner chamber, and a passive infrared sensor enabled to detect infrared radiation that emits an alarm signal when it detects a change in infrared
20 radiation in the inner chamber.

The device can be functionally associated to an alarm receiver, by means of the alarm signal.

25 The device of the present invention, upon detecting a change in infrared radiation in the inner chamber due to the presence of an animal, for example, an insect that has entered into said inner chamber, with a body temperature different than that found inside, emits an alarm signal, which will be picked up and processed by an alarm receiver, hence both elements are functionally associated.

30 The inner chamber of the device is set at a temperature T_i from 20°C to 40°C. A preferred working temperature of the inner chamber is 35°C. This temperature T_i of the inner chamber is an attractive temperature for the insect, for which reason it is used as a main source for attracting the insect. Additionally, the attraction of the insect can also be accompanied by any other

CLAIMS

1. Device for detecting insects characterized in that it comprises:
 - an inner chamber provided with an opening for the entrance of insects,
 - an inner heating base that has an electrical resistance for supplying heat and maintaining a temperature T_i in said inner chamber, and
 - a passive infrared sensor enabled to detect infrared radiation and that emits an alarm signal when it detects a change in infrared radiation in the inner chamber.
2. Device for detecting insects according to claim 1, wherein the inner chamber has a temperature T_i from 20 - 40°C.
3. Device for detecting insects according to claim 2 wherein the inner chamber has a temperature of 35°C.
4. Device for detecting insects according to claim 1 that additionally has complementary means for attracting insects selected from among food, pheromones and ultraviolet light.
5. Device for detecting insects according to claim 1 wherein the inner heating base is connected to an energy source.